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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,972	08/22/2003	Steve Roby	DKT03002US	1068

7590 04/17/2006

BorgWarner Inc.
Patent Administrator
3850 Hamlin Road
Auburn Hills, MI 48326-2872

EXAMINER

COZART, JERMIE E

ART UNIT	PAPER NUMBER
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3726

DATE MAILED: 04/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/646,972	Applicant(s) ROBY, STEVE	
	Examiner Jermie Cozart	Art Unit 3726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-10 is/are allowed.
- 6) ☒ Claim(s) 1 and 12-14 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/22/06 has been entered.

Claim Objections

2. Claims 11 and 13 are objected to because of the following informalities: In claim 11, line 1, the preamble is objected to because it is not consistent with the claims from which it depends, therefore in line 1, it is suggested to change "of" to - -according to- -, line 3, "a" is grammatically incorrect in the used context, therefore it is suggested to delete "a"; In claim 13, line 1, the preamble is objected because it is not consistent with remaining dependent claims, therefore it is suggested to change "of" - -according to- -. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1 and 12-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter

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which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In the specification at paragraph [0025], lines 11-18, a plurality of vanes (113) is described, however, the remainder of the specification fails to describe whether or not the vanes are full vanes or partial vanes. Now claims 1 and 12-14 as presented, disclose "a plurality of full vanes" which is not supported by the specification. In addition, Applicant's remarks filed 7/8/05, state that "Although the term "full" is not expressly recited in the specification, it is clear from a reading of the specification that there is never any suggestion for partial vanes", which supports the fact there is no support in the specification for the vanes being "full vanes" either. Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gottemoller (5,011,371) in view of Galliger (6,019,927).

Gottemoller 371 discloses manufacturing vaned diffuser (28; col. 4, line 35) by casting a one piece disc shape portion (30; col. 4, line 36) defining one surface of the diffuser and a plurality of full diffuser vanes (31; col. 4, line 37) extending from the surface. The diffuser (28) has an axis (not labeled, figs. 2-3) which inherently allows

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separation of the disc shaped portion and integral full diffuser vanes (31) from a mold thereof by translation along the axis.

Gottemoller, however, does not disclose the casting step taking place in a plaster mold or the vaned diffuser consisting mainly of aluminum or an aluminum alloy.

Galliger discloses the concept of plaster molding (col. 1, lines 60-66) complex turbo-machinery parts in order to provide the part with precise dimensions and surfaces.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to cast the vaned diffuser of Gottemoller '371 in a plaster mold, in light of the teachings of Galliger, in order to form the vaned diffuser with precise dimensions and surfaces.

It would also have been obvious to one having ordinary skill in the art at the time the invention was made to cast the vaned diffuser from aluminum or an aluminum alloy thereof, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Allowable Subject Matter

7. Claims 2-10 are allowed.
8. Claim 11 is objected to as containing a minor informality, but would be allowed pending correction of the minor informality.
9. The following is a statement of reasons for the indication of allowable subject matter: Regarding **claim 2**, the prior art does not teach or suggest providing a male metallic template comprising at least the upper surface of the diffuser and further

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comprising a central hub having an axis approximately perpendicular to the upper surface, casting a female plaster mold corresponding to the male metallic template by contacting the template with a plaster slurry within a suitable frame and permitting the slurry to harden, and filling the female plaster mold with a molten non-ferrous metal or alloy having a melting point of less than about 700 °C, in combination with the other claimed limitations.

Response to Arguments

10. Applicant's arguments filed 3/22/06 have been fully considered but they are not persuasive.

Applicant argues with respect to the rejection of claims 1 and 12-14 under 35 U.S.C. 112, 2nd paragraph that support for the term "a plurality of full diffuser vanes" can be found at least in the drawing figures, which clearly show full diffuser vanes formed on the disc-shaped portion (103).

In response, the Examiner maintains that a rejection of claims 1 and 12-14 was not made under 35 U.S.C. 112, 2nd paragraph, also Applicant failed to address the rejection of claims 1 and 12-14 under 35 U.S.C. 112, 1st paragraph. Although the drawings in particular figure 1 are part of the original disclosure, the description of figure 1 in the specification does not disclose whether the vanes are either full or partial, furthermore the prior art cited in the specification of the application does not lend any support as to whether the vanes depicted in figure 1 of the specification are either full or partial as well. Therefore, the rejection of claims 1 and 12-14 under 35 U.S.C. 112, 2nd paragraph is appropriate

Applicant also argues that Gottemoller does not contemplate casting the diffuser body and the vanes as one piece, but that Gottemoller requires an additional machining step to form the vanes.

In response, the Examiner maintains that in Gottemoller at column 4, lines 34-41, a vaned diffuser (28) is casted and the diffuser comprises a plate (30) provided a plurality of integral machined vanes (31). Since the diffuser (28) has been cast and the vanes (31) are integral with the plate (30), then it is clearly apparent that the vanes have been cast as well. It is also noted that even though the vanes of the current application as casted with the disc-shaped portion, the vaned diffuser is machined after it has been cast so as to bring the diffuser into its final configuration. The machining of Gottemoller is essentially similar to the machining described in applicant's specification.

Applicant also argues that there is no motivation to combine Gottemoller with Galliger.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Gottemoller teaches all of the claimed subject matter including casting the disc-shaped plate (30) defining one surface of the diffuser and a plurality of integral full vanes (31) which have

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been machined. Gottemoller, however, fails to disclose casting the diffuser in a plaster mold. Galliger discloses plaster molding simple or complex shapes (i.e. vanes) with precise dimensions and surfaces (col. 2, lines 8-18). The simple and complex shapes which the process of Galliger can create is not solely limited to making impellers, the process is applicable to the high volume production of parts of complex geometry with walls or blades defining undercut spaces. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to cast the diffuser of Gottemoller in a plaster mold, in light of the teachings of Galliger, in order to produce a plaster molded vaned diffuser with precise dimensions and surfaces which inherently eliminates the need for machining of the cast diffuser.

Applicant finally argues that even if Gottemoller and Galliger can be combined, the invention of claim 1 can only be arrived at by selectively picking and choosing portions of Gottemoller and Galliger with the aid of hindsight.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was

within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

11. This is a continuation of applicant's earlier Application No. 10/646,972. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

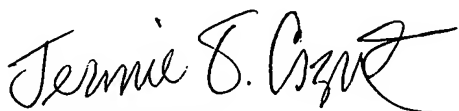
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jermie Cozart whose telephone number is 571-272-

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4528. The examiner can normally be reached on Monday-Thursday, 7:30 am - 6:00 pm.

13. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Nguyen can be reached on 571-272-4491. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jermie Cozart
Examiner
Art Unit 3726